



TorTech

Total Transformer Solutions

www.Tortech.com.au

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Tortech Garden Lighting Technical Information

This Transformer is rated IP 66 (see page 2 for detail)

This means is it dust and water proof

Garden Lighting Voltage Drop Chart –

It is very important that the outdoor cable chosen meets size requirements based on distance used and wattage drawn. If unsure please contact us first.

Cable length and cross sectional area mm² – based on Copper wire

Maximum distances in metres for stated wattage with Voltage Drop of up to 1 Volt



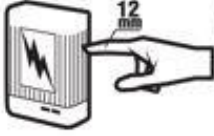











Please note: The following cable sizes are in mm²

Lamp Load/Total Wattage	Distance (m)		
	Cable Size		
	4.0mm	6.0mm	10mm
20W	65	97	164
40W	32	48	81
50W	25	38	65
60W	20	32	54
70W	18	27	46
80W	16	24	40
90W	14	21	35
100W	13	19	33
120W	10	16	27
150W	8.3	13	21
200W	6.5	10	16
250W	5	8	12.6
300W	4.2	6.7	10.7



This Transformer is rated IP **6 6**

IP (Ingress Protection) Ratings Guide

SOLIDS		WATER	
1	 <p>Protected against a solid object greater than 50 mm such as a hand.</p>	1	 <p>Protected against vertically falling drops of water. Limited ingress permitted.</p>
2	 <p>Protected against a solid object greater than 12.5 mm such as a finger.</p>	2	 <p>Protected against vertically falling drops of water with enclosure tilted up to 15 degrees from the vertical. Limited ingress permitted.</p>
3	 <p>Protected against a solid object greater than 2.5 mm such as a screwdriver.</p>	3	 <p>Protected against sprays of water up to 60 degrees from the vertical. Limited ingress permitted for three minutes.</p>
4	 <p>Protected against a solid object greater than 1 mm such as a wire.</p>	4	 <p>Protected against water splashed from all directions. Limited ingress permitted.</p>
5	 <p>Dust Protected. Limited ingress of dust permitted. Will not interfere with operation of the equipment. Two to eight hours.</p>	5	 <p>Protected against jets of water. Limited ingress permitted.</p>
6	 <p>Dust tight. No ingress of dust. Two to eight hours.</p>	6	 <p>Water from heavy seas or water projected in powerful jets shall not enter the enclosure in harmful quantities.</p>
		7	 <p>Protection against the effects of immersion in water between 15 cm and 1 m for 30 minutes.</p>
		8	 <p>Protection against the effects of immersion in water under pressure for long periods.</p>

Rating Example:

IP65

INGRESS PROTECTION



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- Transformer** Transformer – Devise for changing voltage, usually from 240v to low voltage commonly 12v. The reason for this is that when garden lighting it is much safer and easier to run cables across beds and lawns than to run mains voltage.
- Luminaire** Current term for garden lighting fitting
- Lamp** Industry name for a light bulb
- Wattage** Load required to power one or a number of garden lighting fittings.
- Voltage Drop** When running distances in 12 volts the cable needs to be matched to the load and distance. Otherwise you may end up with less than 12 volts at the end of the cable run. This will not cause damage to the luminaire but if the voltage drop is large then the light produced will have a slightly yellow effect and may also seem slightly dim_
- IP Ratings** The rating the garden lighting product (luminaire) is given to show its resistance to particles in the atmosphere and its resistance to water. The first number is resistance to particles and the second number shows the resistance to water. IE IP 67 OR IP 68 for pond or pool lighting.
- Low Voltage**
- Cabling** This is the cable used to run out from the transformer to the garden lighting product (luminaire). The size of cable depends on the total wattage of garden lights and length of cable run.
- Waterproof Connections** There are many different ways of making all joints fully waterproof, this is very important when outdoor garden lighting as without correct joints when the lamp cools it will pull in moisture from the ground and also the atmosphere. This will rapidly deteriorate the lamp and lamp holder and will eventually cause failure.
- IP Enclosure** These are waterproof boxes that must be fitted with the correct glands to ensure watertight seal where the cables exit the box. Very useful to run a number of cables out to each garden lighting product (luminaire).